

# Hybrid Mobile Applications - ICD0018

TalTech IT College, Andres Käver, 2021-2022, Fall semester

Email: [andres.kaver@taltech.ee](mailto:andres.kaver@taltech.ee)



# React N – Basic components

2

## ▶ Most common

- ▶ View
- ▶ Text
- ▶ Image
- ▶ TextInput
- ▶ ScrollView
- ▶ StyleSheet

## ▶ UI

- ▶ Button
- ▶ Switch
- ▶ Picker
- ▶ Slider

## ▶ On screen list views

- ▶ FlatList
- ▶ SectionList

ie only on screen content  
is rendered – like  
RecyclerView in Android

# React N – iOS components

3

- ▶ Common UIKit wrappers
  - ▶ ActionSheetIOS
  - ▶ AlertIOS
  - ▶ DatePickerIOS
  - ▶ ImagePickerIOS
  - ▶ ProgressViewIOS
  - ▶ PushNotificationIOS
  - ▶ SegmentControlIOS
  - ▶ TabBarIOS

# React N - Android components

4

- ▶ BackHandler
- ▶ DatePickerAndroid
- ▶ DrawerLayoutAndroid
- ▶ PermissionsAndroid
- ▶ ProgressBarAndroid
- ▶ TimePickerAndroid
- ▶ ToastAndroid
- ▶ ToolbarAndroid
- ▶ ViewPagerAndroid

# React N - Other

5

- ▶ `ActivityIndicator`
- ▶ `Alert`
- ▶ `Animated`
- ▶ `Clipboard`
- ▶ `Dimensions`
- ▶ `KeyboardAvoidingView`
- ▶ `Linking`
- ▶ `Modal`
- ▶ `PixelRatio`
- ▶ `RefreshControl`
- ▶ `StatusBar`
- ▶ `WebView`

# React N – Components

6

- ▶ Use the docs
  - ▶ <https://facebook.github.io/react-native/docs/components-and-apis>
- ▶ External components
  - ▶ <http://www.awesome-react-native.com>
  - ▶ Or npm registry “react-native”  
<https://www.npmjs.com/search?q=react-native&page=1&ranking=optimal>

# React N – Style/Dimensions

7

- ▶ Fixed dimensions
  - ▶ Width and height
  - ▶ Unitless – density independent pixels
  - ▶ Or percentage
- ▶ Flex space (along main axis)
  - ▶ Similar to `layout_weight` in Android
  - ▶ Default is “flex: 1”
  - ▶ Space shared proportionally amongst other components with the same parent
  - ▶  $\text{flex } 1 + \text{flex } 2 \Rightarrow \text{sum is } 3$ . So first component will use  $1/3$  and second  $2/3$  of available space

# React N - Flexbox

8

- ▶ **Flexbox** is designed to provide a consistent layout on different screen sizes. (similar to web – **flexDirection** default is **row** and flex supports only **single** number)
- ▶ Combine with **flexDirection**, **alignItems**, and **justifyContent** to achieve the right layout.



# React N - Flexbox

9

- ▶ flexDirection
  - ▶ row – align from left to right
  - ▶ column – align from top to bottom
  - ▶ row-reverse
  - ▶ column-reverse

# React N - Flexbox

10

- ▶ justifyContent – how to align children within the main axis
  - ▶ flex-start
  - ▶ flex-end
  - ▶ center
  - ▶ space-between – divide empty space evenly between children  
X\_\_X\_\_X
  - ▶ space-around – divide empty space evenly around every children  
\_X\_\_X\_\_X\_
  - ▶ space-evenly – all empty spaces are exactly the same (start edge, end endge and in-betweens)  
\_X\_X\_X\_

# React N - Flexbox

11

- ▶ `alignItems` – cross axis alignment (only, if width is not fixed)
  - ▶ `stretch` – default (full possible cross axis size)
  - ▶ `flex-start`
  - ▶ `flex-end`
  - ▶ `center`
  - ▶ `baseline`
- ▶ `alignSelf` - override parents `alignItems` setting.

# React N - Flexbox

12

- ▶ alignContent – when wrapping to multiple lines
- ▶ flexWrap
  - ▶ wrap – wraps to multiline when needed
  - ▶ nowrap

# React N - Flexbox

13

- ▶ flexBasis, flexGrow, flexShrink
  - ▶ flexBasis – default size of the item, before grow and shrink
  - ▶ flexGrow – float,  $\geq 0$  (0 is default). How any space is divided among the children along the main axis. Similar to layout\_weight
  - ▶ flexShrink – how to shrink the children, if size overflows. Float  $\geq 0$ , (1 is default)

# React N - Flexbox

14

- ▶ position
  - ▶ positionTop, positionBottom, positionLeft, positionRight – dp pixel to move component
- ▶ padding (top, bottom, left, right)
- ▶ border
- ▶ margin

# React N – Yoga playground

15

- ▶ Interactive web based playground for testing layout styling logic
  - ▶ <https://yogalayout.com/playground/>

